SPATIAL VULNERABILITY INDICATORS APPLIED TO RECOVERY AND RISK REDUCTION AFTER EARTHQUAKES: THE CASE OF L'AQUILA - ITALY

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Vulnerability assessment is a key contribution to formulate recovery and development policies in the risk management process. The post-disaster phases present the opportunity to address the pre-existent vulnerability conditions in order to reduce the risk, and create more resilient societies. The aim of this research is to construct a methodology for monitoring and evaluating the recovery and reconstruction process after earthquakes, based on a framework of spatial vulnerability indicators beyond the physical aspect. The research aims to find the correlation between vulnerability conditions and the dynamics of relief, recovery and development processes and to know which other factors influence the interventions during post-disaster phases. The methodological approach relies on spatial indicators but the idea is to construct an index, which is not only based on physical patterns but also on the social, economical, institutional, cultural and environmental dimensions. The case study area is L'Aquila (Italy), which was shaken by the 6th of April 2009 earthquake. Additionally, key elements could also be extrapolated from the experience collected so far in Bogotá D.C. (Colombia), since this city is currently working on its pre-impact recovery planning. The research is divided in five phases. The first one consist of the literature review of the concepts, previous experiences, best practices, indicators theory, vulnerability assessment, post-disaster activities, the application of remote sensing, GIS techniques and statistics methods. The second phase corresponds to the fieldwork, which is divided into four activities: discussions with the key stakeholders, observation of the local conditions, surveys among affected population and collection of spatial data. The last three phases correspond to the analysis using tools and techniques according to the specific topic to be analyzed, the explanation and discussion of the results and the conclusion and recommendations to improve future recovery processes